Abstract

The increase of adenosine deaminase (ADA) activity in pleural fluids (PF) is considered a useful tool in the diagnosis of pleural tuberculosis. It is known that numerous photometric methods are interfered by the hemolysis, as a result, hemolyzed specimens -or with blood- received in the laboratory are frequently rejected. In order to establish if the values of ADA were affected by the hemolysis or blood, ADA was determined in individual and pooled PF samples with the aggregate of erythrocyte lysate (H) or hemolyzed whole blood (HWB) from 312 mg/l to 12 g/l (final concentrations of hemoglobin in the samples), and plasma in appropriate dilutions. Negative interferences were caused by the H and HWB, starting already of 500 mg/l with relative errors until 50% in some cases, depending on the ADA activity. Increments of hemoglobin increased the negative interference. The aggregate of plasma increased slightly the ADA activity although it was insufficient for neutralize the negative effect of hemolysis. The clinical significance of the negative interference is in relation to the amount of hemoglobin present in the sample and the ADA activity. Near the cutoff (40 U/l) this interference can lead to discard erroneously the diagnosis of pleural tuberculosis.

Keywords

adenosine deaminase, pleural fluids, hemolysis, interference, Giusti